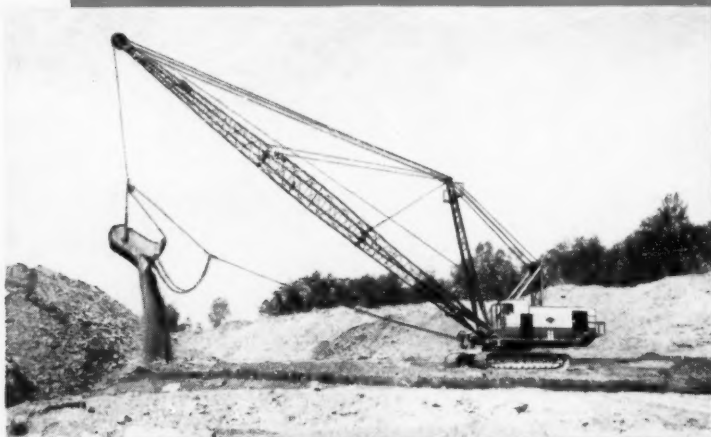


# COAL MINING

UNIVERSITY MICROFILMS  
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ANN ARBOR, MICH

February, 1955

Volume 32, No. 2



Lima 2400 Dragline . . .  
LINGLE COAL CO., Shawville

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MORE  
THAN A MATTER  
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Highway not only  
sells the world's fin-  
est equipment, but  
backs each unit with  
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MICHIGAN TRACTOR SHOVELS AND EXCAVATOR-CRANES  
MASTER • INTERNATIONAL VIBRO-TAMPERS • JAEGER

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means continued, full light**



See that double filament in the bulb? It's your proved protection against lost time for the miner, and a short crew for the foreman. If one filament burns out, a turn of the switch restores continued, brilliant, full illumination—*working light*, not just emergency light!

FOR

## FAST, ECONOMICAL LAMPROOM OPERATION

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## Auger-Mine BONUS Coal with

Hydraulically operated equipment on McCarthy Drills includes: jacks for levelling auger drill, auger guide, auger hoist, moving jacks and skids, and auger feed.

McCarthy Coal Recovery Drill, Model 1436-42, with 12' augers as used by Excavators, Inc., Sommerville, W. Va.

**McCarthy**  
*Heavy Rugged Powerful*

**COAL RECOVERY  
DRILLS**

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- ★ CHOICE OF AUGER DIAMETERS 24", 30", 36", 42", 48"

# THE SALEM TOOL CO.

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on the tough jobs  
you'll always see **Manitowoc**



**Manitowocs are a  
big producing team for  
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When the going is rough and rugged — you'll always find Manitowocs on hand to do the job. Profitable performance on tough operations is a Manitowoc specialty. Here are 3 Manitowocs "putting out" for Benjamin Coal Company near Ansonville, Pa. — a Model 4500 dragline with 6 yard bucket and 120' boom strips from top-side — in the pit a versatile 1¼ yard Model 2000 shovel covers a lot of ground,

loading, cleaning and preparing — and in the background, a Model 3500 Hi-Lift shovel strips overburden at a record rate.

Look into Manitowoc's superiority — check such outstanding features as: faster working cycles, faster travel speeds, long reaching booms, top stability and simple but sturdy design and construction.

These are just some of the reasons why you see more and more Manitowocs on more and more stripping and mining operations. Send for details. Manitowoc Engineering Corp., Manitowoc, Wis.

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SHOVELS  
1-5 YD.

*Speed Crane*

CRANES  
18-100 TON





**"GET A HEAD START ON PROFITS!"**

Get set to go this spring! Construction will set new records. Contracts are waiting bids . . . awards are yours, if you're ready. This year, work seasons are what you make them.

Our shops were never better prepared to start your season early. Enlarged facilities, new tools and factory-trained men are ready to "profit-condition" your Caterpillar equipment.

At the ring of our phone, we'll help you get the jump on jobs and profits!

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**BID A LONGER WORK SEASON . . . BACKED BY YOUR CATERPILLAR DEALER SERVICE!**



## LONGER WORK

### BEGIN HERE AT +125°!

#### CATERPILLAR DIESEL TRACTORS

know no season. From steaming jungles to frigid arctics, these famed yellow machines have weathered every extreme known to man. When your Caterpillar Diesel Tractor left the factory, research men knew you could go to work in any climate.

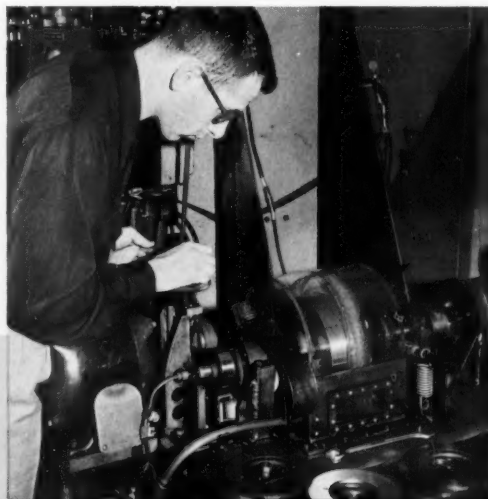
When it comes to the high temperatures of summer, there are built-in reasons why you can beat the heat. You get a *dual-cooling system*—oil and water temperatures are *controlled separately* to provide proper heat dissipation for bearings, pistons, rings and liners. The result?

More of those extra hours, days and years that owners call "longer life."

There's lots more to this story—about seals that guard vital bearings, filters that purify air intakes . . . facts that can only be told by your Caterpillar Dealer.

If it's "heat" that's bothering your work season, a Caterpillar Diesel Tractor is built to beat it.

Below is a scene in the Caterpillar Research Laboratory. Few have seen these men at work. They are study-testing heat action of clutch plates in the now proved Caterpillar Oil Clutch that has contributed so much to cooler operation, greater efficiency and longer life. High temperatures are the specialty of these men . . . temperatures you'll never encounter on your jobs. From such constant vigilance come the steels and lubricants and coolants that are field tested on actual machines at the Caterpillar proving grounds at Phoenix, Arizona. Caterpillar research is always working for you!



#### 2 BOOKS TO HELP YOU BID!

(1) "TOUGH JOBS" . . . and (2) "SUCCESSFUL BIDS." They will show you the way to bigger profits on every job, every season. Ask your nearby Caterpillar Dealer for copies, or write to Caterpillar Tractor Co., Dept. 25, Peoria, Illinois.



## BEGIN HERE AT -65°!

At the other end of the thermometer, Caterpillar research men work, too. Few places in the world get as bitter cold as the "weather room" shown below. Garbed in polar outfits, these research men work the year 'round searching for answers to fast, easier starting . . . lubrication results and effects of various oils . . . cooling system efficiency . . . they chart and graph and record every working condition at temperatures as low as 65° below zero. When your contracts run through cold weather, remember, your Caterpillar Diesel Equipment has "been there" long before it reached your job.



## CATERPILLAR MOTOR GRADERS

are a familiar sight in the dead of winter—opening those snowbound roads and highways. But, again Cat equipment is built for this other extreme in weather.

Cat Motor Graders provide an independent gasoline starting engine that warms and preconditions the diesel cylinders and lube oil before turning over the diesel. The entire starting cycle is controlled from the operator's seat.

Weather extremes don't bother the simple, mechanical controls. Action is fast and positive. Without setting one foot in the snow, the operator can set the blade into any usable position.

Weight is concentrated over big drive wheels for sure traction—winter or summer. Even the non-conductive control handles are designed for operator comfort in weather extremes.

Summer . . . or winter . . . there are built-in bonus benefits when you own Caterpillar equipment!

# CATERPILLAR

LOOK TO THE DEALER  
BEHIND THE PRODUCT



SUITED TO EVERY SEASON...

## CAT® WHEEL-TYPE TRACTORS

WITH A FULL LINE OF  
MATCHED EQUIPMENT!



That big-capacity Athey PR21 rear dump wagon (above) matched to a Caterpillar DW21 wheel-type Tractor, is the newest in a long line of equipment for high-speed rubber-tired duty. Today, the Caterpillar line of wheel-type equipment is most complete, to fit any production, haul or dump requirement. No need to look any further than your Caterpillar Dealer for the right equipment—tracks or wheels—to fit your job for lowest-cost-per-yard. Our recommendations concern only one result—*your profits!*

# CATERPILLAR

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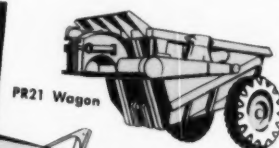
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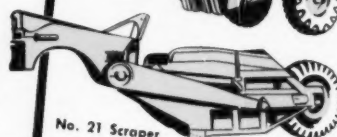
### A COMPLETE LINE OF MATCHED RUBBER-TIRED HAULERS!

Two-wheel or 4-wheel Caterpillar Diesel Tractors . . . rear dump, side dump or bottom dump trailers, self-loading scrapers . . . take your pick from this big "family" of money-makers!

#### DW21



PR21 Wagon

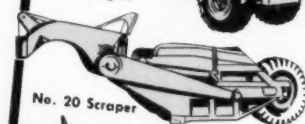


No. 21 Scraper

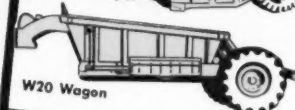
#### DW20



PD20 Wagon



No. 20 Scraper



W20 Wagon

#### DW15



PD10Q Wagon



PD10GP Wagon



No. 15 Scraper

NAME THE DATE...WE'LL DEMONSTRATE!

# COAL MINING

Vol. XXXII February, 1955 No. 2

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Helical and Worm Gears for Joy 14BU Loaders  
**BRONZE, HELICAL and WORM GEARS**  
unconditionally guaranteed

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Camden Road

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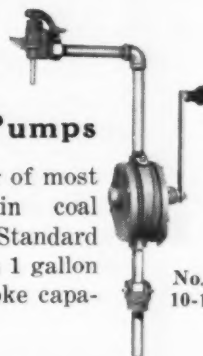
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**HAND  
OPERATED**

### Transfer Pumps

For the transfer of most liquids used in coal mines. Fits all Standard drums. Made in 1 gallon and 1 quart stroke capacity.

No.  
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**The GILSEN COMPANY, Inc.**

3532 Maple St. - Phone 9-3366 - Erie, Pa.



Grooved Pipe Coupling



Plain End Pipe Coupling

**Manufactured in All Pipe Sizes  
Stock Carried in Pittsburgh**

### Harold C. Lusk Co.

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Distributor for: Gustin Bacon Manufacturing Co.  
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## SALEM "HERCULES" AUGERS FOR ELECTRIC DRILLS

Made To Withstand High Drilling Speed, Whip And Torsional Strain Of Electric Drills

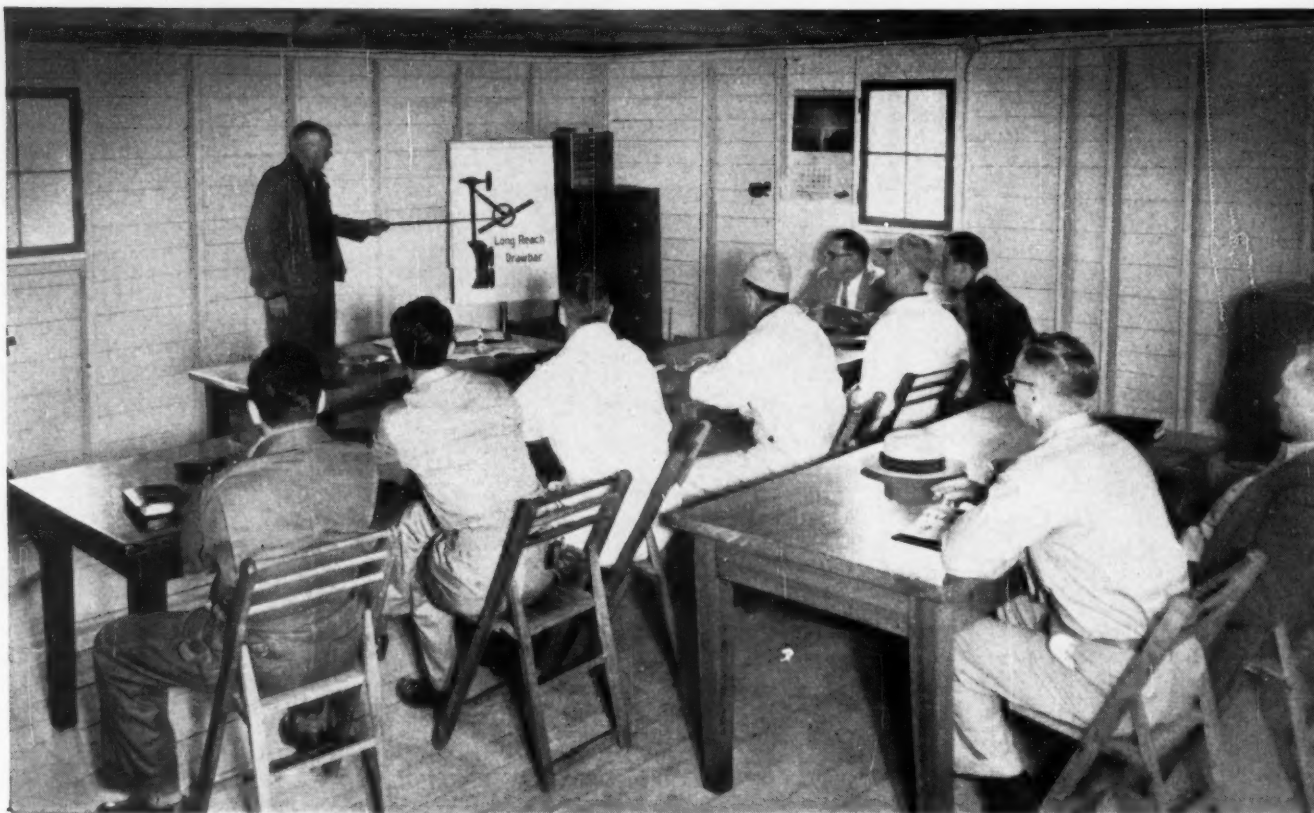


Drills holes faster—Will not snap off shank or chip points—Outlasts four or five ordinary augers.

**THE SALEM TOOL COMPANY**

**SALEM, OHIO, U.S.A.**

**Preventive Maintenance Cuts Service Cost — Increases Earning Capacity**



**PREVENTIVE MAINTENANCE TRAINING KITS** — movies, slides, charts and literature are available to help train your personnel. Your Allis-Chalmers dealer will pre-

sent it for you at your convenience, or arrange to have a factory man do the job. And it can be tailored to suit your specific machines and job conditions.

## **How mine operators can take full advantage of Allis-Chalmers Dealer Service Plan to help protect profits**

### **BENEFITS:**

**Better performance — more time on the job — longer equipment life — lower maintenance cost — higher resale value**

Experience has convinced many mine operators that the Allis-Chalmers Dealer Service Plan is geared to keep equipment operating efficiently. They have found that taking full advantage of such service is easy, and that it pays big dividends. Here's why.

Allis-Chalmers dealers offer them a *planned* approach to service, right from the day their equipment is delivered. It covers everything from service schools to lubrication schedules, and from parts to preventive maintenance.

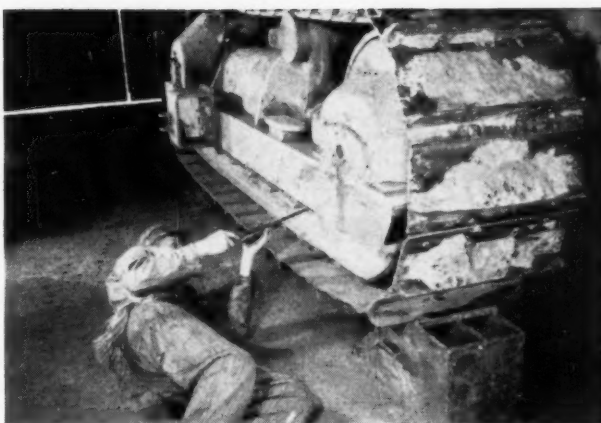
You owe it to yourself to take a look at the advantages this plan offers. Then see your nearby Allis-Chalmers dealer soon and ask him to give you all the facts.

**ALLIS-CHALMERS**  
TRACTOR DIVISION — MILWAUKEE 1, U. S. A.





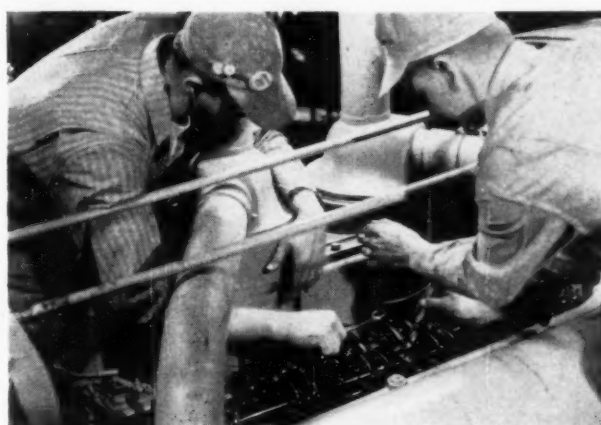
**FAST PARTS SERVICE** — Factory-built Allis-Chalmers parts are stocked in quantities by the *dealer*, to give you parts service as close to your job as possible. And remember, experienced equipment men agree it pays to use only standard factory-built parts.



**SCHEDULED CHECKUP PROGRAM** — Your Allis-Chalmers dealer will help you plan a schedule for all maintenance to keep your equipment operating efficiently. You'll save on repair bills, avoid costly downtime, get far better performance, longer life from your machines.



**OPERATING TIPS** — Allis-Chalmers dealer servicemen are trained to give your operators all the facts they need to operate your equipment most productively. For example, one of the most important things for an operator to know — how to recognize when adjustments should be made.



**SPECIALIZED FACILITIES** at your Allis-Chalmers dealer include factory-approved tools and all necessary service equipment. Factory-approved methods are used to save you time and money, assure finest workmanship, to help you get full value for your equipment dollar.



**FACTORY-TRAINED DEALER SERVICEMEN** have the specialized experience to help you spot trouble symptoms fast, help you prevent costly breakdowns. Their training never stops; they make it a *policy* to stay abreast of every development so they can be of real value to you. And they're ready to go when and where they're needed.



**FACTORY SERVICE SCHOOL TRAINING** is open to your servicemen just as it is for dealers. Training is by men who know the equipment best. Visual aids and easily understood literature are used. And your men discover that Allis-Chalmers design simplicity makes the equipment easy to learn... easiest of all to service.

## Here and There in the Coal Industry

● The Pennsylvania RR has announced the following appointments, effective Dec. 1: W. P. Stuart, general coal traffic manager; H. H. Lippold, coal traffic manager, Pittsburgh; Martin E. Klein, coal traffic manager, Chicago; and F. R. Weis, coal freight agent, Pittsburgh.

● Omar Mining Co. acquired the entire Logan County, W. Va., coal mining operations of West Virginia Coal and Coke Corp., it was announced by E. Morgan Massey at Richmond, Va. A. T. Massey Coal Co., through its new sales division under the name, "The West Virginia Coal and Coke Corp.," has acquired the coal sales organization of West Virginia Coal & Coke Corp. E. Morgan Massey stated that the mining capacity in the Logan County mines of 10,000 tons per day will be maintained by Omar Mining Co.

● Officers elected by the Southern Appalachian Coal Operators Association are president—Charles R. Griffith, president, Southern Coal and Coke Co.; first vice president, G. G. Bonnyman, president, Blue Diamond Coal Co.; second vice president—L. C. Hammock, president, Straight Fork Coal Co.; executive secretary-treasurer—H. S. Homan.

● Illinois Coal Operators Association elected the following members of the Executive Board at the 25th Annual Meeting in Chicago on Dec. 15: Stuart Colnon, Otto Gressens, George B. Harrington, Frank F. Kolbe, George C. McFadden, Thomas C. Mullins, Jr., A. H. Truax, and William P. Young. Mr. Kolbe is chairman of the board. C. W. Peterson was elected treasurer. Immediately after the meeting, the executive board met and elected A. H. Truax, president; Fred S. Wilkey, secretary, and the firm of Essington, McKibbin, Beebe and Pratt, general counsel.

● Harry M. Ziv, vice president of Walter Bledsoe and Co., was elected treasurer of the Northern Illinois Coal Trade Association at the organization's annual meeting in Chicago. He succeeds the late T. C. Mullins, who was president of Mid-

land Electric Coal Corp. Mr. Ziv's position on the board of directors goes to T. C. Mullins, Jr., who is now president of Midland Electric. Ray F. Barrow, assistant to the executive vice president of Southern Coal Co., Key Coal Co., and Northern Illinois Coal Corp., was reelected at the meeting: Pres. J. M. Morris, vice president, The United Electric Coal Companies; Vice Pres. William H. Cooke, president of Little Sister Coal Corp.; and Secy. A. J. Christiansen.

● Col. Henry Crown on Thursday, Jan. 6, announced the acquisition of substantially all of the stock of the Chicago, Wilmington and Franklin Coal Co. The transaction involved approximately \$12 million. Colonel Crown is chairman of the board of Material Service Corp. of Chicago, which owns Freeman Coal Mining Corp. The combined production of CW&F and Freeman constitutes the largest in the country. Freeman and CW&F have several of the country's most modern and efficient coal mines, and the two largest "air washing" plants.

● Establishment of a consolidated sales and service department, effective January 1, for the entire line of Marion-Osgood-General equipment in both the domestic and export markets was announced today by Marion Power Shovel Company.

D. E. Rizer has been named to head the coordinated program as vice president for sales and service. A member of the Marion Power Shovel Co. for the past 29 years, he previously was vice president in charge of service, parts and pricing.

● John D. Russell, formerly manager of engineering, Joy Manufacturing Company, has been appointed vice president, engineering, of the company, with headquarters at Joy's executive offices in the Oliver Building, Pittsburgh, Pa. Born in New York City on March 5, 1907, and a student at Northwestern Military and Naval Academy, Mr. Russell has served Joy in various engineering capacities since his graduation, with a degree in electrical engineering, from Cornell

## Do You Know?

● A newly developed hose outwears steel pipe in transporting ten-pound chunks of coal or ore.

The tubing, lined with abrasion-resisting rubber, was designed by B. F. Goodrich engineers.

Lumps of ore up to eight inches long are flushed through the hose by a high pressure stream of water from the mine to the factory and from process to process.

The new hose has proved especially useful as a substitute for pipe bands. Abrasive particles cause severe wear at turns in conventional piping systems. Unlike the pipe, the rubber hose can be rotated to distribute the wear at these points.

● A new kind of high voltage machine, a modified Van de Graaff generator, has been made. Instead of carrying electrostatic charges on its moving belt, it carries charged condensers that are automatically connected in series as they reach the top of the machine. This increases current output and voltage.

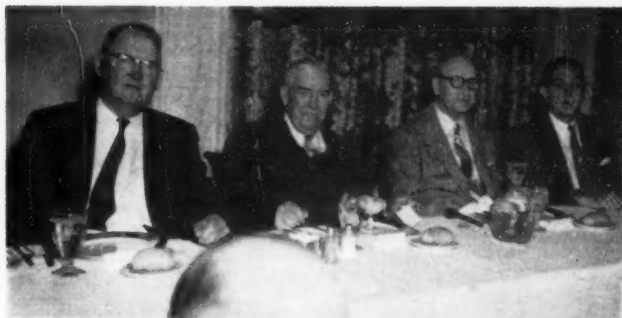
The new device is reported to the British Journal, Nature, by R. E. D. Clark of the Cambridgeshire Technical College and F. T. Turner of the Royal Victoria Infirmary, Newcastle upon Tyne.

University in 1930. He is a member of the Zeta Psi fraternity, Cornell Society of Engineers, Northwest Pennsylvania Engineering Society, The Franklin Club, Franklin Chamber of Commerce, and is vice president and director of the Venango Federal Savings and Loan Association.

● Appointment of Reid-Holcomb Co., Inc., of Indianapolis, Indiana as distributors for General Motors Diesel engines has been announced by the Detroit Diesel Engine Division of General Motors.

With complete factory-approved sales and service facilities established at 1815 Kentucky Avenue in Indianapolis and sales engineers located in principal Indiana cities, the company is in a position to render excellent service to GM Diesel owners throughout most of the state.

The Reid-Holcomb Company already represents a number of construction equipment manufacturers who offer GM Diesel engines as optional power for their products. These products include Insley and Lima shovels, Gallion road graders, Pettibone-Mulliken loaders and Euclid earthmoving equipment.



Left: Frank Powers, Director, Maryland Bureau of Mines; W. Garfield Thomas, Deputy Secy., Penna. Dept. of Mines; J. J. Forbes, Director of Mines, Washington, D. C.; J. A. Brookes, Mgr. Mines, Pickands Mather Co.



Left: D. C. Jones, Penn State University, Jack McKenna, Deputy Secy., Penna. Dept. Mines; Bela E. Schonthal, Retired Secy., Illinois Mining Institute; J. M. Lowe, Secy., of the Institute.

## ANNUAL MEETING OF THE COAL MINING INSTITUTE OF AMERICA

● Human beings are capable of improvement. Humans alone possess nervous system which gives them the power to order ideas into words. Humans alone have a way of thought that allows comparison of new problems with old.

The material of all progress is the people. No matter how well organized or how technically advanced, progress comes from creative thought.

Restudy of the people in a South Pacific village who had been observed as children 25 years ago showed a dramatic social change from Stone Age to Atomic Age in a single generation.

Chemists have investigated many processes carried out by living tissues and found that, one after another, they have proved to happen according to natural laws. The power we have acquired over the forces of nature has made it possible to increase our mental training as well as our standard of comparison.

Our present predicament is the inevitable result of our curiosity and the physical world in which we live. If we will utilize the increased knowledge gained through that curiosity we can live better.

We are constantly acquiring new habits, getting new thoughts and applying new methods. We must keep on getting new thoughts and applying new methods to find out which succeed and which fail.

We must apply greater depth of experience and technical know-how. It is surprising what can be accomplished when science, man-

agement and labor join hands. For that reason rapid co-ordination of science management and labor must be united if progress is to continue.

No matter how much conditions change we need individual opportunity and incentive for all successful endeavor. Sacrifice these and you sacrifice the dynamic thrust of our industrial economy. No group effort is ever anything more than combined individual effort.

Technological horizons before us are unlimited. Where they will lead us no one knows. One thing is sure, however, that is the future will make the present more obsolete than the present has made the immediate past. Newer technological miracles will be wrought by men with pioneering instinct, by men who are among us now.

In our industry's progress will be determined by the availability of trained technologists and how we make use of them. Much is going to depend on how rapidly we obtain necessary information and put it at the disposal of the proper men.

Actions to date clearly have shown that the fact that our industry must resort to scientific and technological means is not yet fully appreciated.

At present we have no scientifically trained personnel. Larger-scale developments will require much more scientific and technologic manpower, yet there is no indication that serious steps are being taken to remedy this situation.



J. J. Snure, V-Pres. Oprs., Rochester & Pittsburgh Coal Co. and retiring President of the Institute introducing the Master of Ceremonies



Henry C. Rose, President of the Pittsburgh Coal was the Master of Ceremonies.





Left: R. J. Reed, U. S. Steel Corp.; G. E. Iennox, West Penn Power Co.; Wm. Lyons, Jr., W. L. Lyons, Sr., U. S. Bureau of Mines, E. M. White, Mine Safety Appliances Co.; W. A. MacCall and G. E. Duerr, West Penn Power Co.; J. J. Misenko, S. Kosik and D. E. Klingensmith, from the U. S. Steel Corp.



Left: Don Baker, Mfgs. Agent; R. E. Haden, West Penn Power Co.; R. L. Auchmuty, Eavenson, Auchmuty & Summers; Joseph Kristoff, Jr., Henry Flon, Virgil Filosi, Frank Richards, all from the Pittsburgh Coal Co.; J. R. Hawlichek and V. R. Graves, Fairmont Machinery Co.; Mile W. Summers, Eaevonson, Auchmuty & Summers.



Joseph A. Moody, President of the Southern Coal Producers Association was the principal speaker.

The Sixty-Eighth Annual Meeting of the Coal Mining Institute of America was held at the Wm. Penn Hotel, Pittsburgh, Pennsylvania December 9 and 10 and was presided over by Mr. J. J. Snure, Vice-President in Charge of Operations, Rochester & Pittsburgh Coal Company and President of the Institute.

The Annual Banquet was held on the evening of the 9th at which Mr. Henry C. Rose, President of the Pittsburgh Coal Company was Toastmaster. Mr. Joseph E. Moody, President, Southern Coal Producers Association was the principal speaker at the banquet and his talk follows.

#### THE COAL INDUSTRY ... OBSOLETE OR DYNAMIC AND EXPANDING

I appreciate very much the honor of addressing the 68th annual dinner of the Coal Mining Institute of America. Among your members are men and firms whose names have been associated with coal for a long time. Among you

are some of the best coal men in the country; some of the most efficient firms. I feel then like an amateur among professionals. Yet, I have been saying what I thought about the bituminous coal industry for quite a few years. It is a little late to plead ignorance. Consequently, I will speak frankly and crave your indulgence for any shortcomings.

Any discussion of coal must, of necessity, cover ground that has been plowed often in the past. I realize that many of you are well aware of coal's immediate plight, as well as of the predictions of a bright future. Of necessity, I must go over familiar territory again. In the process, I will try not to make my recapitulation too tedious.

Our industry is an industry with a history of trouble. The industry of America has risen because of an ample coal supply but comparatively few owners of coal mines have grown rich. Generally speaking, the coal industry has been composed of a number of small units. It has been highly competitive. When business got bad, coal prices were cut. Once upon a time, differences in wage rates and other factors helped areas where mining costs were comparatively high and which were farther away from markets than their competitors. But over the years, the union has eliminated wage differentials. And the steady rise in freight rates has made it more and more difficult for the mines farthest from their customers.

Back in 1947 the coal industry produced 631 million tons. In all probability production this year will be less than 400 million tons. More than that, the bituminous



Left: Virginia Breitenstein, W. G. Stevenson, Mgr. Mines, Hillman Coal & Coke Co.; R. E. Furman, Lt. Governor, Penna.; J. V. McKenna, Dep. Secy. Mines, Penna. Mrs. R. E. Furman, W. L. Affelder, V-Pres., Hillman Coal & Coke Co.; Mrs. J. V. McKenna, Mrs. W. G. Stevenson.



Left: Al DeHaase, Asst. For. and J. J. Gallagher, Chief Clerk, Mathies Coal Co.; Walter Keally, American Steel & Wire Co.; J. L. Laubach, W. J. Prosser, Frank P. Miller, George J. Sari, C. A. Burchfield, George T. Fowler, all from the U. S. Steel Corp.; M. F. Florjansic For., Mathies Coal Co.



Left: John Bannerman, Chief Slectrician, M. A. DePietro, Supt. J. & L. Steel Corp.; E. A. Watters, Chief Eng. and R. N. Tutt, Baton Coal Co.; Robert Gosser, Chief Eng., Hicks Coal Interests Arthur Hall, Supt., R. E. Jones, Foreman, Allegheny River Coal Co.; V. R. Jones, Supt., Power House Coal Co.; C. H. Shaffer and D. A. Beck, West Penn Power Co.

coal industry probably will operate at a loss in 1954, just as it probably operated at a loss in 1953.

This situation is not a good one for the industry or for our economy. Aside from the loss of tax revenue, a vital industry is being crippled. Many persons have the idea that the country is not really dependent upon coal. This is not true. The United States today is as dependent upon coal as at any time in its history. Without coal, our steel and electrical industries would collapse; many other industries must have coal. The railroads depend for a large part of their tonnage and revenue upon coal. The coal giant may be weak and burdened, but the economy of this country rests upon his back.

One of the best informed coal men I know has stated that the country cannot safely allow the industry to have a readily available production of less than 500 million tons annually which in an emergency could be quickly stepped up to 750 million. Yet, as I stated, coal output this year will be under 400 million tons — 100 million less than the minimum needed for national safety.

Before going into further details, let me say something that most of us know, but do not like to talk about. The decline of coal is due in large part to the lack of vision and statesmanship in the industry as a whole. There has been no lack of shrewd and intelligent men in this industry. Many of these have prospered. All too often, however, we have concentrated on our own immediate interests. The union also has concentrated on its own immediate ends. And the Government, itself, has pursued policies towards coal

which have been opportunistic and short-sighted.

Perhaps some of us have felt that there was too much competition in the coal industry. Perhaps some of us have looked forward to the elimination of operations we regarded as marginal. Perhaps also some have felt that the efficient units would be better off if the industry went through the wringer. I am making no charges. But, I am stating what quite a few honest and informed men believe to be true.

Only the squeeze does not work out as expected. The hard pressed units do not go out of production, or not enough of them to have any appreciable effects. They cut prices to stay in business and in so doing cut profits for the industry as a whole. Those who have to shut down for the time being get back into business the moment they can. They cut costs by going non-union or they evade the terms of the contract, but, they mine and sell coal. All of us know of instances where a bankrupt mine has changed hands, not once, but several times, and has never lost a day's production.

I would venture the guess that the pattern of geographical production within the country has changed comparatively little since 1947, a year of peak production. There has been curtailment in almost all areas, but, no area has shut down to the benefit of the other areas. The Southern coal industry has some severe handicaps. It has higher cost operations than some other sections and it is farther from markets than some fields. But in 1947 the Southern fields produced about 32.4 percent of the nation's bituminous coal. In 1953 it produced about 34.6 percent.

It is time then for the industry's leaders to realize that we all are very much indeed in the same boat. The future of coal does not lie in ruthless, senseless competition. It lies, rather in increasing coal's total market. It lies in national and industry policies which will make for a stable, prosperous and expanding coal industry.

I do not intend to devote too much time tonight to the labor policies of coal. You are familiar with them in detail. I have stated oftentimes, and I repeat, that the labor policies of the United Mine Workers have been unrealistic. The fact that over 300,000 men are out of work, or on part time work in the coal industry, bears out my statement. Labor costs in coal are at least 60 percent of the cost of production, much more than the labor costs of coal's competitors. Although the coal industry is badly depressed in a period of almost unparalleled peace-time prosperity, coal operators who abide by the union scale are paying more for a six and one-half hour day than is being paid in other major and prosperous industries for an eight hour day. The average daily wage rate of \$19.67 for bituminous coal in September, was over five dollars per day higher than for all manufacturing industries. It was \$1.60 higher than the steel wage rate and \$1.75 higher than the automobile daily wage rate.

Coal's welfare fund is on an unsound basis and it also lies heavily upon a depressed industry. There is something radically wrong in a situation where workers in an industry which is losing money, have a higher wage rate than workers in highly prosperous industries like steel and automobiles. This out-

of-line high wage rate — coupled with high fringe benefits — has hurt more workers than it has helped. I suspect very strongly that many coal miners would prefer to work regularly for a fair wage than to have the highest wage scale in the country and be out of work.

Similarly, coal freight rates need reduction. Coal today is paying substantially higher rates than are being paid by other heavy commodities such as iron ore, sand and gravel and building material. I have seen it estimated that coal is paying approximately one-third of the railroad deficit on passenger and dining car losses. The railroads should not forget that a large part of their revenue comes from coal. When coal production declines their revenue declines. The railroads' revenue from coal in 1954 will be about \$600 million less than it was in 1947. This is money that the railroads cannot afford to lose.

Coal's representatives have talked many times to railroad officials about freight rates. I'm sorry to say that we have not got very far. Quite a few railroad men seem to feel coal is on the way out and they must get all they can while there still is coal to ship.

Perhaps it is time to change our attitude on methods to use in reducing freight rates. Instead of waiting for proposals to continue dnddly high rates, or to increase them still further, we should look carefully around to see if there isn't some effective way of getting rates to fair levels. Maybe there is some logical reason for discriminatory freight rates on coal but, if



Left: J. A. Magistrella, U. S. Bureau Mines; A. E. Vondales, and Jock Whittaker, Pittsburgh Coal Co.; F. R. Hilderbrand and G. L. Kemp, Wierton Coal Co.; Robert Cullen and Jack Von Feld, Pittsburgh Coal Co.; J. B. Morrow, and J. T. Clark, Consulting Engineers; Sam Cortis, Penna. State Mine Inspector.

so, I have not heard it yet.

The competition from natural gas is another matter which we need to look at very carefully. I question the wisdom of federal regulation of the independent producers of natural gas. If the government has the authority to regulate the production of natural gas, it seems to me that it has the authority to regulate the production of oil, lumber, coal or any other natural resource.

This struggle over regulation is to a large extent a struggle over gas rates. Consumer groups have been told that the alternative to regulation by the Federal Power Commission is higher rates for gas. This propaganda is misleading. The consumers of gas do not realize that natural gas is in much shorter supply than the mineral fields. At existing consumption rates, our reserves, at the beginning of 1954, will be sufficient only for about 23 years. On the other hand, coal

reserves are sufficient for well over 1000 years.

Thus, the consumers of natural gas are being told half truths. Natural gas is being sold at prices considerably lower than the corresponding prices for coal. It is being piped all over the country. It originates in states whose own supply of coal is limited, and is sold where coal is abundant. Natural gas also is being sold in large quantities for industrial use. This, in many instances, is a wasteful use of fuel which should be conserved for home heating, or for use in the states where it originates. The time may come when the producing states will wonder why they did not conserve some of their gas for their own use.

There is no reason whatever for the Federal Government to insist on regulating the gas industry so that natural gas be sold at bargain rates. It is not in the national interest to charge prices for gas



Left: F. R. Zacher and W. W. Pondstone, Christopher Coal Co.; C. F. Smith, U. S. Steel Corp.; Ben Martin, Martin Supply Co.; Austin Phillips, Jack Stephenson, Albert R. Hood, T. H. Gabler, R. W. Furman, J. A. Younhins, Duquesne Light Co.



Left: Russell Paniter, Asst. For. West Penn Coal Co.; Bobby Waddell, W. Va. Mine Inspector; Herb. Heiner, Store Clerk, Joseph Dobrich, Asst. For., Eddy Watkins, Safety Eng., John Hackett, Safety Eng., Dave Richardson, Asst. For. Robert M. Cain, Asst. For., Watt Bennett, Asst. For., Dick Walters, Resident Eng., Jeff Allen, Chief Clerk, all from the West Penn Coal Co.



which drive coal out of its natural markets. Any advantage to the consumers will be short lived. Eventually, they cannot get the gas or will have to pay prices for it that may make coal cheap by comparison. One may say that they can turn again to coal. By that time, the men may have left the coal mines for good. The mines themselves can deteriorate to the point where they are not able to supply the coal.

And while I am on the subject, let me point out that the depletion rates allowed for coal for taxation purposes, are unfair as compared to the higher depletion rates allowed for coal's competitors, gas and oil.

We hear a lot today about the necessity of admitting more foreign products into the United States. If we are to maintain our world leadership, we are told, we must take more and more articles and commodities made abroad. I do not intend to get into any broad discussion of the matter today, but, I do want to talk about coal's import competition. As you know, residual fuel oil has displaced coal in many industries along the Atlantic seaboard. Estimates have been made that coal has lost more than 20 to 33 million tons to residual oil since 1946. This loss is increasing steadily. Overall, residual oil imports, plus the residual made from imported crude, amounts annually to the equivalent of about 50 million tons of coal, or one-eighth of our production this year. Most of this oil comes from Venezuela, although shipments from the Middle East are rising sharply. All but one or two million barrels enter East Coast markets. We are told that any curtailment of its flow would be a most serious blow to our program for world leadership. In other words, curtailment of residual oil imports would affront Venezuela, which purchases large quantities of American goods. We are told that such action would also make the rest of the world feel that we are going isolationist.

Actually, the residual oil imports from Venezuela have little to do with international trade. In my opinion, the dumping of the residual oil is a part of a scheme for a division of the world oil market. There is evidence that a cartel fixes prices and allocates markets for oil. The story is detailed in a

voluminous report of the Federal Trade Commission to a Senate Committee in 1952, entitled "The International Petroleum Cartel." This report is convincing, — it gives names, places, dates. The Justice Department filed a complaint against five major companies in April, 1953, charging the maintenance of a world petroleum cartel in violation of the anti-trust laws. Oil production in Venezuela is largely in the hands of three major companies. Two of them were named in the Justice Department action, which still is pending.

The oil companies which control Venezuelan production could produce more gasoline and other petroleum products which would sell for higher prices, in the world market than residual. Why is this not done? Apparently the market is divided up to exclude additional gasoline and lighter products produced from Venezuelan oil. Any substantial change in the distribution pattern might upset a profitable appletart. Consequently, we have a heavy production of residual. This must be sold and it is dumped upon the American East Coast.

We have then a most peculiar and unhealthy situation. Venezuela does not really profit from this dumping. In fact, that country would get more revenue from its oil if the big oil firms would produce less residual from the Venezuelan output. A report from the Venezuelan government shows that Venezuelan oil, by a slight improvement in cracking processes, easily would produce only 40 percent residual instead of over 60 percent, as at present. Yet, despite the growing demand for the lighter and higher valued products, Venezuelan oil turns out over 60 percent residual.

Our Justice Department is proceeding against the petroleum cartel — and very slowly, I might say. Meanwhile, dumping continues and every effort to stop it is met by the claim that such action would hurt our international relations. To all intents and purposes our Government has given its blessing to the dumping of oil by the world petroleum trust. It is protecting an international cartel and doing so at the expense of a legitimate and vital domestic industry.

Congress should make a most

thorough inquiry into this situation. The cartel should be broken up, this dumping stopped and the persons who have protected dumping, under the guise of promoting trade, dismissed from government.

A lot of propaganda is going out to the effect that consumers are benefited by an arrangement imported residual oil is sold at prices lower than coal prices. But if the oil cartel sells residual oil at a low price, let us not be fooled. The object of the oil cartel is not to benefit the consumers, but to charge all the traffic will bear for petroleum products. There is evidence that every penny saved by the low price of residual oil is taken back — and more — by higher prices to United States consumers of gasoline, household heating oil and other oil products.

All efforts thus far to get relief from oil dumping have failed. Yet, curiously enough, our State Department does not seem concerned about discrimination against our own exports of coal. This market will amount to about 15 million tons this year and would be more if American coal was not kept out of a number of markets abroad by embargoes, quotas and other restrictions. For example; American coal has virtually been banned from Western Germany. Some of it, however, has entered by being shipped to another country and then re-shipped to Germany. This is a most astonishing state of affairs for which I have never seen a logical explanation.

All in all, the government has not been kind to the coal industry. The Welfare Fund was put upon the industry by an agreement between the government and the union after the government had seized the mines during World War II. The government seized the mines five times during the war-time period. On at least two of these occasions the government made wage agreements with the union and then told the operators, in effect, to sign the agreement if they wanted their mines back. In no single instance did any benefit accrue to the operators from seizure.

And while the government favored the union when the operators were involved, it has not favored either on other occasions. One was the residual oil matter which I discussed at some length. Another is the government's coal



Left: H. Hess, Maint. For.; C. F. Browning, Asst. Sonstr.; Eng. G. Wydo, Mine For.; Walter E. Cook, Asst. Eng.; G. W. Nycum, Elect. Constr. Enf.; Harry LeClere, Purchasing Dept.; Robert D. Rennie, Master Mech.; Harold J. Hardy, Power Eng, all from the mining dept. U. S. Steel Corp.



Left: R. S. James, U. S. Bureau Mines; M. D. Cooper, National Coal Association, M. L. Davis, W. H. Tomlinson, W. E. Fene, all from the U. S. Bureau of Mines; W. J. Maher, Mine Safety Appliances Co.; H. R. Berdelky, U. S. Bureau of Mines.

purchasing policy. For example, the Tennessee Valley Authority is buying coal under bid procedures which virtually exclude operators who are paying the union wage scale. And the TVA is no small consumer of coal. Its consumption in 1954 is expected to be about 15 million tons and to reach 21 million tons within a comparatively short time. Twenty-one million tons is 5.5 percent of 1954 production.

Even more serious from the standpoint of the coal industry, is the effect of TVA buying policies upon those of the private utilities which are competitors of TVA, and upon private utilities which are outside TVA's orbit. The latter's buying policies have forced the private utilities in competition with TVA to buy from producers who are paying below the union scale. Other private utilities ask the coal industry why they should pay more for coal than TVA pays.

We might as well be frank about it. TVA, whether intentionally or unintentionally, is engaged in a union-breaking operation. It also is disrupting the most promising market which the bituminous coal industry has — the utility market. Cut rate prices for coal by TVA are leading to cut rate prices throughout the utility industry. I do not want to get into the current controversy which revolves around TVA but as long as a Congressional inquiry which involves this agency impends, I put forward a suggestion. Let the inquiry extend to TVA coal buying policies. I have a recommendation to make also to the Congress — see to it that TVA, financed by the taxpayers money, including taxpayers in the coal industry, pays a fair and reasonable price for coal.

I did not come here tonight to blame all our ills upon the government. One reason that the govern-

ment has discriminated against the coal industry, is the division within our ranks. If we do not adopt constructive long-range policies, how can we expect the government's policies towards coal to be constructive? We do not present a united front on wage matter; we do not present a united front on freight rates, and we are not particularly effective in the rare instances where we are united. We furnish a good example of that old saying: Dog eat dog and the devil take the hindmost.

Once upon a time coal was the primary fuel for home heating, but few new houses today have coal furnaces. Yet, surely, there are many areas of this country where coal is the most economical fuel for home heating today and will be so tomorrow. Surely, also, the ingenuity in our industry can make coal attractive once more to other householders. In many, many respects coal is the finest source of heat and energy in the world. Perhaps also it is possible to reverse the trend that has made the steam engine a rarity on our railroads. I am told that new coal burning locomotive engines are more economical and efficient than the best diesels made today. If that is true, why aren't we out selling such engines to the railroads?

I agree that the coal industry has a bright future, but I do not agree that it will come automatically. First of all, let us get rid of the idea that all we have to do is to wait. This waiting has proved disastrous in the past and is likely to prove so in the future. We should begin immediately to hold every market which we have today and to expand that market by every means possible. The industry should discard — permanently — the idea that some will benefit and wax fat from the misfortunes

of others. This idea has dragged the entire industry down and will continue to do so until we realize that our future is bound by the future of the industry. The southern coal fields are in the market to stay and so are other major fields.

I have talked a lot about our troubles today. I hope I have not sounded too querulous and complaining. Actually, I have tremendous confidence in our future. The way is, as I see it, clear — if only we will work together as we should.

What are some of the things a united industry should do? In the forefront, I would like to see an intensification of research in our industry. I think this research should include both market research, research to increase the uses for coal, and research to increase production efficiency. We should utilize all our own resources in this program and we should not hesitate to insist that the federal government help us.

The future of the chemical industry is tied very closely to the futures of synthetic fuels from coal. I need not remind you that the United States chemical industry has expanded at three times the rate of other industry for the past 25 years. It may grow even more rapidly in the future. The list of chemicals which can be made from coal is a long one: phenol, xylene, naphthalene, indole, toluene, toulidines, benzene, cresol, and aniline, among others. These are used for the manufacture of many products—detergents, drugs, rubber, motor oils, coatings, synthetic fibers, finishes, perfumes, insecticides, gasoline, tires and so on through a long list. It is not unlikely that much of the gas used in the future will come from coal.

There is much also to be done in the perfecting of the industrial



Left: W. N. Truxell, John Reckus, M. B. Girod, U. S. Steel Corp.; T. E. Foster, Frank Prox Co.; among the next three men are Charles Hackett, Albert Armstrong and J. J. Lannon, Ontation Mining Co.; H. E. Mauck, Olga Coal Co.; Dick Johnson, Mine Safety Appliances Co.; H. J. Richards, Christopher Coal Co.



In this group are Edward Kelly, Clerk, Robert Jordan, Jr., Mining Machine repairman, John H. Harris, Bert Teasdale, Jr., Frank R. Goshern, D. D. Duratz, Storekeeper, all from the mining dept., U. S. Steel Corp.; C. B. Sims, Fred O. See and Bob Gerdetz, Cardox Corp.

processes which employ coal as a raw material. For example, much promising work has been done towards processing iron ore directly from the hydrogen in coal, thereby eliminating the coking process. This is only one of a number of similar possible developments.

One of our hopes for the future lies in the better marketing of our product. All too many coal operators have been at the mercy of the market. There has been comparatively little thought to the long-range marketing of coal and to sales planning which goes along with research. Some excellent work has been done by the larger companies, but many companies lack the resources for such research and planning. This does not mean that they must be left to the mercy of cutthroat competition. The desperate effort of hard-pressed operators to keep going in a shrinking market, constitutes a threat to all sensible and constructive long-range plans. The fortunate companies in this industry must help the less fortunate by showing how these, too, may help expand and stabilize our industry.

In one field the coal industry has been modern and alert. Our production methods are an example to the world. There will, of course, be many other developments in this area, including the transportation of coal by pipeline and conveyor belt. Nevertheless, increased production efficiency has not solved

all our problems in the past. It will not solve them in the future. It will help and we must round out our program by improving, to the fullest, every one of our operations.

I have seen estimates that the overall annual demand for coal in 1975 will be 1.4 billions tons of coal. The latest figure I have seen, however, estimates this total at 815 million tons. Perhaps the first figure is too high; the 815 million too low.

In any case, the facts support conclusions for a sizeable rise in coal production as time goes by. There are many facts which support such optimistic conclusions — our rising standard of living, a population of about 200 million around 1975, the prospective coal demand of the utilities, and other things too.

Yet, prophecy is not an exact science. On the horizon we see light. But, we are now dwelling in darkness and, in large part, darkness of our own creation. The future, as I have said, is likely to be the future which we make for ourselves. Some of us will not live to 1975, or the halcyon days which are so freely predicted. We want some of the good things of life now. The way to get them for coal is to work for them, sensibly, constructively. Let us never forget that the way to sell coal is to make it competitive at the point of use. This involves all our ingenuity, our persistence and our ability to work

together for the common good. This is the way to make tomorrow and the day after tomorrow as bright as they are today in our dreams.

● A doughnut-shaped metal ring smaller than a shirt button was developed as a magnetic amplifier to govern huge machines.

● Mr. D. E. Conrad, Mining Engineer, has been made Sales Manager, Carmet Division (Carbide Tipped Cutter Bits) of the Allegheny-Ludlum Steel Corp. Mr. Conrad is a graduate of the University of Pittsburgh and has had 12 years underground coal mine operating experience. He is 33 years of age, is married and has three children.



D. E. Conrad





Lima Model 1201 Dragline removing overburden off the lower seam of coal in pit one.

## Stripping Two Seams of Coal and Fire Clay at Darlington, Pennsylvania



Lima Model 604 Shovel moving overburden of the top seam of coal in pit one.

● With emphasis on consolidations of big business, like we have today, to form gigantic corporations for more favorable competitive standing, we, for the moment, are apt to overlook the good work being accomplished by the individual small business man.

In this day of unfair competition from foreign residual fuel oil on the East Coast of our country. Like the deep coal mining industry, coal stripping is having to struggle for its existence. The quality of coal in the seam or seams to be stripped, the height and kind of overburden on the coal, the kind of stripping equipment to be used to move overburden, proximity to market, all play their part in the present struggle for existence.



Lima Model 703 Dragline moving overburden of the lower seam of coal in pit two.

A smaller kind of stripping operation that is doing outstanding work is that of Ralph Veon at Darlington, Pennsylvania. Ralph Veon is stripping coal and fire clay in two separate pits. At his main pit, nearest Darlington, he is stripping two seams of coal and a seam of fire clay. The fire clay is sold to a local manufacturer of sewer pipe. At this pit the top seam of coal runs about 18 inches thick and is covered with a slaty shale. About 25 feet of cover is moved with a

Lima Model 604 shovel equipped with  $2\frac{1}{4}$  yard ESCO bucket.

The lower seam of coal and the seam of fire clay in the number one pit lies from 25 to 30 feet below the top coal and the cover is moved with a Lima Model 1201 dragline. The lower coal about 31 inches thick. The cover on the lower coal and fire clay consists of top soil and gray shale. Working with the stripping equipment in pit number one( making and maintaining roads, cleaning coal etc. is an Allis-

Chalmers HD-15 tractor, equipped with torque converter.

At another nearby pit a Lima Model 703 dragline is moving brown shale off coal only. The general utility work at this pit is being done with an Allis-Chalmers HD-19 tractor.

● A new seven-roller, oscillating-type track roller frame is now available as an attachment for the Caterpillar D8 Tractor, according to an announcement from Caterpillar Tractor Co., Peoria, Ill.

Installation of this track roller frames on the D8 will provide increased traction, greater flotation and better stability, particularly when the unit is operating in hilly terrain nadlocations where underfoot conditions are soft or unstable.

A tractor equipped with the seven-roller frame requires a 42-section track in place of the 39-section track included on the standard six-roller machine.

New arrangements for bulldozers, both cable and hydraulic, and for the Cat No. 46 Hydraulic Control are also required for use with tractors equipped with the longer frame. Heavy-duty track roller guards are available as attachments for use with the seven-roller track frame.



Allis-Chalmers HD-15 Tractor with Torque Converter pushing spoil.

# Stepping Up Coal Production in Britain

Bb W. REES-MOGG

*British Economic Writer*

● Every traveler knows the patterns of the older roads of Britain, the way in which they wind narrowly through tall green hedges, often picturesque, but also often very inconvenient. The shafts and tunnels of Britain's coal pits have something of the same character, and the basic reason is the same in both cases. Britain's coal mines like many of her roads are old; both were built in days which had necessarily to accept standards of efficiency far lower than those of the 20th century.

Any understanding of the particular problems and achievements of mining in Britain must start from this point. Ninety per cent of the coal mined in 1954 was won from pits that were dug before 1913, two-thirds came from 19th century pits. Between the wars, the industry, still in private ownership, experienced hard times. It was then faced with the problem of readjusting to the great fall in export demand and the loss of export markets in wartime, and it was never able to recover its former sales. Only during the last war and in the years after did the opportunity to campaign for higher coal production again present itself.

## DEVELOPMENT PROGRAM

The key to the situation is the National Coal Board's capital development program. The object of this program is to bring the mines up to date. In 1954 between 80 and 90 per cent of the coal that was raised was both mechanically cut and mechanically transported. This is a considerable achievement because the pits did not really lend themselves to mechanization. Clearly it is much easier to mechanize a mine which has broad seams and which lies near the surface or actually outcrops onto the surface. Mines in Britain are almost all deep and the average seam is a narrow one. They are an altogether different, and an altogether more difficult proposition from the mines of, for instance

the United States or of South Africa.

Mechanization is not, however, the only answer or the only urgent call on capital resources. There is a need for new and modern pits. In fact, the long term plan is that four-fifths of the coal should be mined from pits that have either been altogether re-constructed from their present lay-out, or which have not yet been dug. The National Coal Board has not always been able to progress as fast as it wished in the years since the war, partly because the equipment was sometimes short and partly because it seemed wrong to take a man off the coal face where he was actually producing coal at a time when the whole of Europe needed for its economic recovery every ton of coal that could be found.

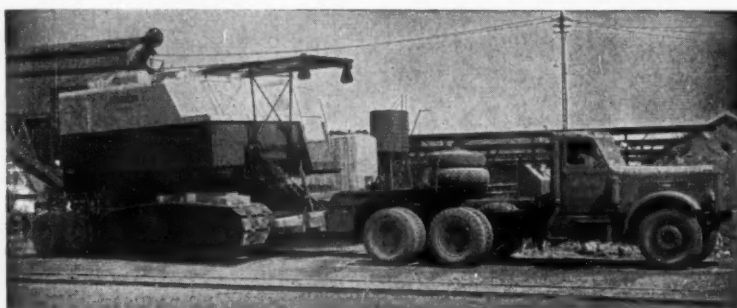
More recently, however, progress has been much accelerated. The Board now has 15 new mines planned and 51 major reconstruction schemes. This represents a large capital outlay. In 1953, at 52,000,000 pounds (\$145,600,000) the capital expenditure of the

Board was double what it had been in 1951. This year it will be about 75 million pounds; next year it is expected to reach over 90 million pounds; and after that rise to one hundred million pounds and stay there for some time. Only the limitations of nature, and conditions which have been the curse of generations of mining in Britain will stop United Kingdom pits being the most efficient modern pits in the world.

## PRODUCTION UP

Few people even in Britain have any conception of the size of this program, yet many are inevitably disappointed with the continuation of the coal shortage so many years after the war. Householders in Britain still cannot buy all the coal they would like, and supplies to them are restricted in the interest of home industries and overseas customers. Yet in recent years the story has been one of the rise in demand for coal rather than of the failure of the supply. On the contrary, coal production has been mounting steadily over the years.

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In the pits in 1954 absenteeism has gone down, productivity has risen and actual production has gone up. Voluntary Saturday working, which the miners have agreed to do, has been increasingly good, and is worth at the present rate 12 million tons of coal a year.

This would have done very well if Britain had not been in the middle of an industrial revival. The use of coal is no bad indicator of the movement of a national economy. These were the percentage increases for different industries that the Minister of Fuel had to report to the House of Commons recently: Motor cars 8.5, Chemicals 12.5, engineering 12.5, electrical engineering 15.5, farm electricity 16%, and so on. These are the increases in one year, and they are increases from a year of strong recovery, not from a year of depression. Included among these industries are those which provide Britain's main exports. The coal imports that have become necessary are no sign of the failure of United Kingdom mining, but rather a sign of the success of United Kingdom industry.

Deep mined coal output is in fact up by two million tons in 1954, and will be 30 million tons higher than it was a few years ago. The industry, which used to be the scene of recurrent strikes and disputes has on the whole a better record for industrial peace since the war. The future is one of great reconstruction and great capital expenditure. For the National Coal Board knows that the future of coal is as one fuel among many, and as one chemical raw material among many.

At present, despite the large increase in the use of oil and hydro-electric power, 90% of Britain's needs for primary fuel is met from coal; and, whatever the future holds, however much new sources of energy, including atomic energy, are developed there is a good prospect that every ton of coal that can be mined will be needed in Britain or for export.

● A new high strength wire rope, at least 15 percent stronger than the vest grade of wire rope now being manufactured, has been announced by the wire rope divisions of American Chain and Cable Company, Wilkes-Barre, Pa. Initial production will go to the construc-

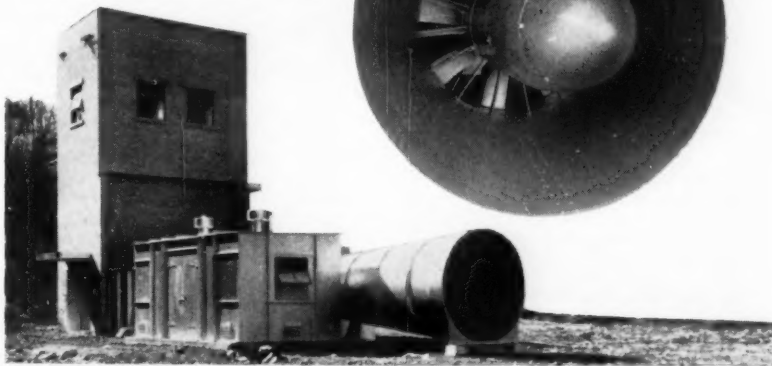
tion, petroleum, mining, and logging fields.

Representing the most important change in the characteristics of wire in 35 years, the new grade of rope is expected to simplify the use of wire rope generally and to permit lighter weight equipment to be designed at lower cost. An average tensile strength of 300,000 psi has been achieved by the use of special precise analysis high carbon steel wire and improved processing.

The preformed rope, to be known as VHS—designating very high strength—will be marketed by both the Hazard Wire Rope and American Cable Divisions. It is already being used by the Navy for steam jet catapult launching assemblies, and for arresting gears and barriers. It has been widely tested in heavy-duty construction, mining, petroleum, and logging installations where its service life doubled that of existing cables.

Inside view (right) of big AERODYNE "iron lung" shows scientifically-designed torpedo discharge cowlings for reducing air turbulence, sharply increasing fan efficiency.

8H60 AERODYNE installation (below) at Johnstown Coal and Coke Co.'s Crichton No. 4 Mine, Nettie, W. Va.



## AERODYNE power for deep breathing underground

Coal mines can take deep breaths with the Jeffrey 8H Series AERODYNE Fan. From 20,000 to 500,000 C.F.M. of air can be blown or exhausted at pressure up to 20" W.G.

Individually adjustable blades enable the 8H to operate over a large range of capacities at peak efficiency. Fan can be readjusted as mine characteristics change or easily disassembled for transportation to another location.

Hundreds of AERODYNES have been installed since the fan was introduced in 1936. It is easily the most popular mine fan in America, because it is both flexible and reliable.

**6F Series AERODYNE**—a six-blade fan combining economy and efficiency for light or medium-duty ventilation up to 5" W.G.

**12A Series AERODYNE**—a 12-blade, self-contained deluxe fan for heavy duty . . . designed for maximum pressure of 13" W.G. and volumes from 20,000 to 700,000 C.F.M.

**AERODYNE Jr.**—a low-cost fan for general or auxiliary mine ventilation or industrial applications . . . 5,000 to 150,000 C.F.M. up to 4" W.G.

**AERODYNE Midget Blowers, Type 61 Blowers and Universal Blowers** for secondary fan duty.

Write for Jeffrey Mine Fan Catalog 797.



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Faster, Safer  
DRILLING!**



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MODEL  
12-B

Safe, dependable, fast drilling with complete safety... no spark, no kick... all electrical hazards removed yards from drill. Light weight Model 12-B is powered from hydraulic systems of standard mining equipment or can be furnished with Schroeder Tricycle Hydraulic Mobile Power Unit. Features minimum of operating parts and reduced maintenance costs.

## SCHROEDER BH DRILL BIT



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BIT

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Two mining methods are combined by Excavators, Inc., Summerville, W. Va., to work the five-foot Kittaning Seam near that city. An International TD-24 with cable bulldozer removes overburden from part of the seam and then coal is pulled from the remained of the seam by a McCarthy rock borer using a 42-inch auger drill that is powered by a 125-horsepower International UD-18A diesel power unit. Due to old, deep mine operations, the company discovered it would be unprofitable to mine the entire seam by stripping methods.



## DRAGLINE 4500 MANITOWOC

Boom 120 ft., Caterpillar Diesel, 6 yd. Bucket  
New 1950

PRICE .....\$80,000.00

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## MANITOWOC SHOVEL & DRAGLINE

Cummins Diesel, 30 ft. Shovel Boom, 1 1/4 yd. Dipper, 80 ft. Dragline Boom., Good condition.

ANDERSON EQUIPMENT CO.  
Box 1737, Pittsburgh 30, Pa.  
Phone: LEhigh 1-6020

● Automation, a word which often strikes fear in the heart of the American factory employee, actually describes a burgeoning machine age which is the worker's best friend, according to a report published by the National Association of Manufacturers.

A word that means many things to many people, automation is used to refer to any automatic operation of productive machinery. Its widespread use, together with talk of "workerless factories," has caused many industrial employees to fear that mechanical robots will supplant them and leave them jobless.

Entitled "Calling All Jobs," the 24-page, two color NAM booklet is designed to end such fears. It emphasizes that so-called workerless plants are a myth and will remain so in the future. It stresses the fact that industrial machinery has undergone a continuous process of improvement and that this merely has become more pronounced in the past six or seven decades.

The booklet uses historical examples to show that every improvement of the machine age which has increased productivity has increased the total number of jobs, thus proving that automation is the friend of the worker rather than his enemy. The NAM study notes, for example, that General Motors employment has risen 200,000 in the past few years in spite of all the new and modern automatic equipment it has installed.

Quotes from the Ford Motor Company point out that "automation at Ford conserves manpower, but it does not eliminate men from the industrial scene; instead it saves men from many burdens and hazards and gives them jobs which utilize their brainpower more effectively."

Further corroboration that increased mechanization benefits all Americans is given in a quotation from the late Philip Murray who, in addressing the CIO as its president in 1951, said:

"I do not know of a single, solitary instance where a great technological gain has taken place in the United States of America that

it has actually thrown people out of work. I do not know of it, I am not aware of it, because the industrial revolution that has taken place in the United States in the past 25 years has brought into the employment field an additional 20 million people."

After showing that automation is not an evil Frankenstein monster threatening the American worker, but rather an atomic age development to benefit all mankind, the NAM booklet explains that "jobs increase faster than population" and that they "multiply faster than machines." It tells, in layman's language, how some of the automatic gadgets, such as electronic

brains and digital computers, are making the United States the most productive nation the world has even known. It shows that all this means there will be less emphasis on brawn—more emphasis on brains.

Foreseeing a new era of rapidly rising living standards, spurred by automation, the booklet concludes:

"Let the worker face what is to come with hope in his heart, not with fear in his mind. Automation is a magical key to creation, not a blunt instrument of destruction, and the worker's talent and skill will continue to merit reward in the fairyland of the world to come."

## SCOTTDAL MACHINE, FOUNDRY & CONSTRUCTION CO.

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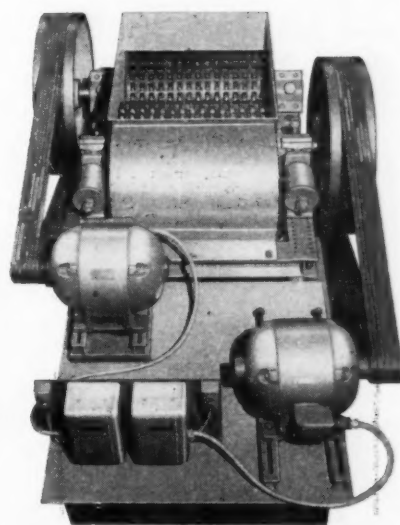
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### 4500 MANITOWOC STRIPPING SHOVEL

60 ft. Boom, 45 ft. stick, 4 yd. Dipper

PRICE \$110,000.00

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### USED EQUIPMENT

**Item C134 Caterpillar D8 Diesel tractor, equipped with Caterpillar 8A blade and No. 25 control unit, canopy top, crankcase guard. Has new rollers and one new sprocket ring. CERTIFIED BUY. F.O.B. Clearfield, Pa. — \$10,500.00**

**Item WV130 Caterpillar Model D8 tractor mounted with Model 19A14010 Cardwell Side Boom. Equipped with crankcase guard. Diesel engine just rebuilt before unit was traded-in. This machine is in excellent condition. BONDED BUY F.O.B. Clarksburg, W. Va. — \$9,250.00**

**Item C180 Caterpillar D7 Diesel tractor, equipped with Caterpillar No. 25 control unit and Le-Tourneau straight blade. Canopy top, tracks and rollers good. CERTIFIED BUY F.O.B. Clearfield, Pa. — \$6,500.00**

**Item P280 Caterpillar D7 Diesel tractor, equipped with LaPlant Choate hyd. angled dozer, radiator guard, crankcase guard, front pull hook, canopy top, track rollers, idlers, and sprockets good. New Paint. BONDED BUY F.O.B. Pittsburgh, Pa. — \$13,000.00**

**Item P121 Caterpillar Model 17000 engine, rebuilt and guaranteed. BONDED BUY F.O.B. Pittsburgh, Pa. — \$6,500.00**

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**Item C137 Allis Chalmers HD19 tractor equipped with Baker hydraulic straight blade—fair condition. BUY AND TRY F.O.B. Clearfield, Pa. — \$6,500.00**

**Item P287 International Model D9 diesel tractor, equipped with: crankcase guard, track roller guards, pull hook, lighting system. Mounted with: Bucyrus-Erie hydraulic angle dozer, Jaacson Winch. Excellent running condition—Painted and Decaled. CERTIFIED BUY. F.O.B. Pittsburgh, Pa. — \$4,650.00**

**Item E137 TD14 International tractor, equipped with Bucyrus-Erie hydraulic angling blade. Tractor has just had \$2,000.00 in repairs put on it. In very good condition. BUY AND TRY F.O.B. Erie, Pa. — \$5,500.00**

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- 2—Joy 30" Belt Conveyors, 1000' and 2000' centers. Like new.
- 1—Jeffrey 61 CLR rubber tired Loader, 26" high.
- 6—Jeffrey 35L Cutting Machines, 250 volts DC. Perfect.
- 4—Joy 6 SC four wheel drive Shuttle Cars, rebuilt. Elevating discharge. Airplane brakes.
- 2—Joy 5 SC four wheel drive Shuttle Cars.
- 6—42E Shuttle Cars, as is or rebuilt.
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- Stationary Motors, AC and DC.
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IT DOESN'T COST — IT PAYS TO BUY FROM

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**McLanahan Crusher B-2361—360 TPH with Steel Crushing Plates and 4" thick Mangnese steel liners and 200 HP AC motor with V-Belt drive — good for crushing coal — limestone — rock or ore, in good operating condition and priced to sell.**

**McCarthy — Highwall Auger 30" dia. — 90' drills — Conveyors. Gas motor driven, used for short time only — at low price — located at Pittsburgh mine.**

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**Joy 6SC Shuttle Cars, in good operating condition.**

**Joy 5SC Shuttle Cars in good operating condition.**

**Jeffrey 65 Style Shuttle Cars and 66 Style Shuttle Cars.**

**Baker Fletcher Roof Bolting Drill, mounted on rubber.**

**Joy 8BU, 11BU, 14BU Loader.**

**Joy T-1 Cat. Track good as new.**

**Joy 30" Belt Conveyor complete, and 1200' long.**

**Goodman 512 Cutters with bugduster vibrating screen 4' x 10' single.**

**Coal Mine Hoist with 300 HP motor and controls.**

**WANTED Joy 10SC Shuttle Car.**

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Caterpillar D17000 Diesel Engine  
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FEBRUARY

| MON | TUE | WED | THU | FRI | SAT |
|-----|-----|-----|-----|-----|-----|
| .   | 1   | 2   | 3   | 4   | 5   |
| 6   | 7   | 8   | 9   | 10  | 11  |
| 12  | 13  | 14  | 15  | 16  | 17  |
| 18  | 19  | 20  | 21  | 22  | 23  |
| 24  | 25  | 26  | 27  | 28  | .   |

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AA-132

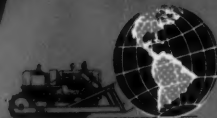
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